

**CLAIMS**

What is claimed is:

- 1        1.        A filter element, comprising:  
2                a ring of filtration media circumscribing a central axis and defining an internal  
3        cavity, an end cap sealingly bonded to each end of the media ring, with one of the end  
4        caps having an annular body defining a central aperture, and a groove formed  
5        circumferentially around an inner wall surface of the aperture, and opening radially  
6        inward toward the central axis of the element, wherein a central, perforated support core  
7        can be received internally of the element and retained therein by a retaining device  
8        received in the groove.
- 1        2.        The filter element as in claim 1, wherein an annular flange inwardly bounds the  
2        opening of the body, and projects from an end connected to the body a short distance  
3        axially within the cavity toward the other end cap to a distal end located closer to the one  
4        end cap than the other, the groove formed in the flange toward the connected end of the  
5        flange.
- 1        3.        The filter element as in claim 2, wherein the annular flange and annular body are  
2        formed unitary, in one piece.
- 1        4.        The filter element as in claim 1, wherein all components of the filter element are  
2        formed from incineratable material.
- 1        5.        The filter element as in claim 1, wherein the groove has a thin, substantially  
2        rectangular configuration in cross-section.
- 1        6.        The filter element as in claim 5, wherein the width of the groove is less than the  
2        thickness of the one end cap.

1        7.        A filter subassembly, including a ring of filtration media circumscribing a central  
2        axis and defining an internal cavity, an end cap sealingly bonded to each end of the media  
3        ring, with one of the end caps having an annular body defining a central aperture; and a  
4        retaining ring removeably attached to the one end cap and projecting radially inward into  
5        the internal cavity.

1        8.        The filter subassembly as in claim 7, wherein a groove is formed  
2        circumferentially around an inner wall surface of the aperture in the one end cap, and  
3        opens radially inward toward the central axis of the element, and the retaining ring is  
4        received in the groove.

1        9.        The filter subassembly as in claim 8, wherein the one end cap includes an annular  
2        flange inwardly bounding the annulus of the one end cap, and projecting from an end  
3        connected to the body a short distance axially within the cavity toward the other end cap  
4        to a distal end located closer to the one end cap than the other, the groove formed in the  
5        flange toward the connected end of the flange.

1        10.       The filter subassembly as in claim 9, wherein the annular flange and annular body  
2        are formed unitary, in one piece.

1        11.       The filter subassembly as in claim 7, wherein the retaining ring is a C-ring.

1        12.       The filter subassembly as in claim 7, wherein all components of the filter element  
2        are formed from incineratable material.

1        13.       The filter subassembly as in claim 7, and further including a central support core  
2        located within the central cavity and retained therein by the retaining ring.

1 14. The filter subassembly as in claim 13, wherein the support core is closely and  
2 completely received within the internal cavity of the filter media ring, and is supported at  
3 either end by the end caps of the element.

1 15. The filter subassembly as in claim 14, wherein the retaining ring is located so as  
2 to engage and support an axial end of the support core.

1 16. The filter subassembly as in claim 15, wherein the support core is retained at  
2 other axial end by the other end cap.

1 17. The filter subassembly as in claim 13, wherein all components of the filter  
2 element are an incineratable material, and the support core is metal.

1 18. A filter assembly including a housing; a filter element located in the housing and  
2 having a ring of filtration media circumscribing a central axis and defining an internal  
3 cavity; a support core removeably disposed within the internal cavity of the filtration  
4 media; and a retaining device removeably attached to the element and retaining the  
5 support core within the internal cavity, the retaining device being removable from the  
6 element to allow removal of the support core from the element.

1 19. The filter assembly as in claim 18, wherein an end cap is sealingly bonded to each  
2 end of the media ring, with one of the end caps having an annular body defining a central  
3 aperture sized so as to allow the support core to be inserted into and removed from the  
4 internal cavity of the element, and the retaining device is removably attached to the one  
5 end cap and projects radially inward into the internal cavity.

1 20. The filter assembly as in claim 19, wherein a groove is formed circumferentially  
2 around an inner wall surface of the aperture in the one end cap, and opens radially inward  
3 toward the central axis of the element, and the retaining device is received in the groove.

- 1     21.     The filter assembly as in claim 20, wherein the one end cap includes an annular  
2     flange inwardly bounding the annulus of the one end cap, and projecting from an end  
3     connected to the body a short distance axially within the cavity toward the other end cap  
4     to a distal end located closer to the one end cap than the other, the groove formed in the  
5     flange toward the connected end of the flange.
- 1     22.     The filter assembly as in claim 21, wherein the annular flange and annular body  
2     are formed unitary, in one piece.
- 1     23.     The filter assembly as in claim 19, wherein the retaining device is a C-ring.
- 1     24.     The filter assembly as in claim 19, wherein all components of the filter element  
2     are an incineratable material, and the support core is metal.
- 1     25.     The filter assembly as in claim 19, wherein the support core is closely and  
2     completely received within the internal cavity of the filter media ring, and is supported at  
3     either end by the end caps of the element.
- 1     26.     The filter assembly as in claim 25, wherein the retaining device is located so as to  
2     engage and support an axial end of the support core.
- 1     27.     The filter assembly as in claim 26, wherein the support core is retained at another  
2     axial end by the other end cap.
- 1     28.     The filter assembly as in claim 18, wherein the retaining device comprises means  
2     for retaining the support core in the filter element, and allowing removal thereof.
- 1     29.     The filter assembly as in claim 18, wherein the housing includes an annular base,  
2     with a flow passage therein, supporting an end of the filter element.